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imagery analysis report

Radio-Relay Network, Hungary (S)



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WNINTEL

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RADIO-RELAY NETWORK, HUNGARY (S)

1. (S/WN) An extensive radio-relay network has been identified in Hungary using imagery of September and October 1980 and February 1981 (Figure 1 and Table 1). The imagery scale was, in most cases, too small to allow a determination of the numbers, types, and orientations of the antennas making up the network. However, the radio-relay facilities fall into six basic categories based on the type of antenna support structures at the facility.

2. (S/WN) The type 1 facilities (Figure 2) consist of a guyed, tubular-steel tower and a control building. The tower probably supports dish or horn microwave antennas.

3. (S/WN) The type 2 facilities (Figure 3) consist of a cylindrical, masonry tower with a small mast on top. These facilities may serve as remote TV translator stations.

4. (S/WN) The type 3 facilities (Figure 4) consist of a cylindrical, masonry tower (which is larger than the type 2 tower) that supports dish or horn antennas. The two variations of the type 3 facility are designated 3A and 3B. Type 3A facilities (inset, Figure 4) have a midmounted equipment cabin. Type 3B facilities (inset, Figure 4) have multiple platforms mounted on the upper portions of the tower. The type 3 facilities are in the major cities and at probable junction points in the radio-relay network.

5. (S/WN) The type 4 facilities (Figure 5) consist of a guyed lattice tower which supports probable microwave antennas of undetermined types. Type 4 towers vary in size and height. Some or all of these facilities may also serve as radio broadcast stations.

6. (S/WN) The type 5 facilities (Figure 6) consist of a self-supporting steel lattice tower supporting unidentified types of microwave antennas. These towers vary in height.

7. (S/WN) The type 6 facilities (Figure 7) consist of a building with microwave antennas, including both horn and dish types, mounted on it.

8. (S/WN) Type 7 facilities contain towers of types and sizes which do not fit any of the six basic types.

IMAGERY

(S/WN) Satellite imagery acquired during September and October 1980 and February 1981 was used in the preparation of this report.

(S) Comments and queries regarding this report are welcome. They may be directed to [] Soviet Strategic Forces Division, Imagery Exploitation Group, NPIC/[]

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Table 1.
Facilities in the Hungarian Radio-Relay Network
(Items keyed to Figure 1)

This table in its entirety is classified SECRET//WNINTEL

Item	Name	Geographic Coordinates	BE Number	Type Facility	Remarks	Item	Name	Geographic Coordinates	BE Number	Type Facility	Remarks
1	Budapest Radcom	47-35-36N 019-01-40E	None	4		46	Dorog Radrel Sta	47-43-05N 019-51-25E		5	Self-supporting lattice tower
2	Budapest/Vitorlazo	47-33-22N 018-59-55E	None	4		47	Esztergom N	47-48-05N 018-44-55E	None	1	
3	Budapest TV BC Sta Remetekertvaros	47-33-05N 019-00-20E		3B		48	Dobogoko	47-47-15N 018-51-05E	None	1	
4	Szechenyi Hegy	47-31-05N 018-57-58E	None	7	Round masonry tower	49	Vamosmikola	47-57-15N 018-52-25E	None	1	
5	Budapest/Budakeszi	47-31-47N 018-58-30E	None	4	2 guyed lattice towers	50	Nograd	47-57-20N 018-57-50E	None	2	
6	Budapest/Budakeszi	47-30-20N 018-58-05E	None	5	2 self-supporting lattice towers with periscopic reflectors	51	Homok	48-00-25N 018-53-05E	None	1	
7	Szechenyi Hegy	47-29-45N 018-58-20E	None	1	Poss R-400 antennas	52	Homok N	48-02-40N 018-58-10E	None	1	
8	Budapest/Szechenyi	47-29-31N 018-58-54E	None	4&6		53	Dejtar	48-01-10N 019-09-55E	None	1	
9	Budapest W	47-31-20N 018-58-40E	None	5	Self-supporting lattice tower	54	Blassagyarmat	48-04-15N 019-18-20E	None	1	
10	Budapest N	47-32-05N 019-00-10E	None	5	1 lattice tower, 3 masts, research-related	55	Salgotarjan TV Rel Sta	48-06-40N 019-47-55E		7	Lattice tower, poss TV BC and radrel
11	Budapest/Budaors	47-26-05N 018-58-20E	None	5	3 lattice towers	56	Borsodnadasd	48-07-25N 020-15-55E	None	1	
12	Godollo N	47-38-35N 019-19-55E	None	2		57	Ozd TV Rel Sta	48-13-39N 020-17-40E		7	Poss TV BC
13	Godollo	47-37-30N 019-20-50E		6	Bldg with multiple horn parabolic and dish antennas	58	Miskolc	48-08-16N 020-31-08E	None	1	
14	Budapest Radcom Sta Matyasfold	47-29-35N 019-12-55E		4&5	Self-supporting lattice tower, guyed lattice mast	59	Miskolc	48-05-55N 020-46-50E	None	1	
15	Iasazeg Radrel Sta	47-31-02N 019-23-44E	None	1		60	Kazincbarcika	48-14-52N 020-38-10E	None	1	
16	Budapest Tropo Sta SGF	47-28-50N 019-23-10E		2	1 set TWIN PLATE antennas, 1 type 2 tower	61	Szendro	48-23-25N 020-37-20E	None	1	
17	Budapest/Pestlorinc	47-27-26N 019-10-26E	None	3	Large cylindrical masonry tower ucon	62	Hidasnemeti	48-28-38N 021-06-45E	None	2	
18	Budapest/Sepel	47-25-18N 019-04-10E	None	3	Large cylindrical masonry tower ucon	63	Tokaj TV Rel Sta	48-07-13N 021-23-03E		3B	
19	Budapest BDCST Sta Kossuth Lakihegy	47-22-35N 019-00-10E		4	1 1,000-ft and 1 400-ft guyed lattice towers	64	Kisvarda	48-14-12N 022-03-55E	None	6	Bldg with horn parabolic antenna
20	Budapest BC Sta	47-22-30N 018-59-10E	None	4	2 300-ft guyed lattice towers	65	Zahony	48-22-35N 022-08-16E	None	5	Self-supporting lattice tower with horn parabolics
21	Budapest E	47-25-45N 019-11-05E	None	5	Self-supporting lattice tower	66	Kabhegy FM BC Xmtr A TV Rel Sta	47-02-49N 017-39-28E		3&4	Large, 2-section fac: 1 type 3 tower, 1 type 4 tower
22	Budapest/Ferihegy	47-25-50N 019-12-25E	None	5	Self-supporting lattice tower	67	Zirc	47-16-25N 017-52-40E	None	1	
23	Vecses	47-24-25N 019-15-01E	None	3		68	Mor	47-20-50N 018-12-10E	None	1	
24	Budapest SAM Site B12.2	47-23-56N 019-25-52E		1	Prob R-400 antennas	69	Mor	47-22-12N 018-15-25E	None	2	
25	Szombathely AM BC Sta	47-11-55N 016-39-50E		5	1 self-supporting lattice tower, poss AM BC	70	Csakbereny	47-22-20N 018-24-30E	None	1	1 tube mast, 1 truck-mounted mast with poss R-400 antenna
26	Kozeg Radrel Sta	47-23-35N 015-31-45E		1		71	Oroszlany	47-29-10N 018-19-10E	None	2	
27	Sopron TV BDCST Sta	47-39-45N 016-34-35E		3B	Large cylindrical masonry tower, multiplatform, TV BC	72	Budapest SAM Site B26.2	47-26-20N 018-43-40E		1	Prob R-400 antennas
28	Mosonmagyaróvár	47-50-35N 017-17-58E	None	4		73	Vac	47-47-05N 019-16-25E	None	2	
29	Szany	47-27-30N 017-20-20E	None	5	Self-supporting lattice tower	74	Rimoc	47-58-35N 019-31-50E	None	2	
30	Gyor Radrel A TV Rel Sta	47-39-35N 017-39-50E		3B		75	Paszto	47-56-05N 019-40-50E	None	1	
31	Kisber	47-31-20N 017-55-18E	None	2		76	Jobbagyi W	47-49-25N 019-36-02E	None	5	Self-supporting lattice tower with poss horn parabolic and dish antennas
32	Kamarom	47-44-15N 018-07-20E	None	3		77	Jobbagyi	47-50-03N 019-42-45E	None	2	
33	Tata West	47-35-32N 018-13-25E	None	2		78	Kekeseto	47-55-20N 019-55-25E	None	3B	
34	Tata	47-38-25N 018-19-05E	None	6		79	Kekes Mt TV Rel Sta	47-52-40N 020-01-00E		3B	
35	Tatabanya	47-35-37N 018-24-40E	None	5		80	Emod	47-56-30N 020-49-18E	None	6	Bldg with multiple horn parabolic and dish antennas
36	Tatabanya	47-35-10N 018-24-50E	None	1		81	Meczosat AW Radar Fac	47-48-10N 020-53-50E		1	2 masts with poss dish antennas
37	Tatabanya S	47-32-55N 018-27-20E	None	4		82	Ujsezentmargita	47-43-15N 021-05-18E		3	Multi horn parabolic and dish antennas
38	Nagygyhaza	47-30-55N 018-33-57E	None	2		83	Polgar Tropo Sta SGF	47-50-32N 021-10-09E		*	1 set TWIN PLATE, 2 prs TWIN DISH antennas
39	Gerecse Mtn N	47-40-52N 018-29-15E	None	2		84	Nyiregyhaza AM BC Xmtr	47-56-45N 021-43-08E		7	Masonry tower
40	Gerecse Mtn Radrel Sta	47-40-35N 018-29-40E		3B		85	Nyiregyhaza Radrel Sta	47-56-20N 021-45-22E		4	
41	Labetlan	47-44-42N 018-30-30E	None	1		86	Mateszalka	47-56-48N 022-14-58E	None	5	Self-supporting lattice tower
42	Esztergom	47-45-25N 018-42-03E	None	3	Large cylindrical masonry tower with multiple horn parabolic and dish antennas	87	Szokesfehervar Radio Sta Sosto	47-09-45N 018-23-30E		4	Multiple guyed lattice towers
43	Dorog	47-45-05N 018-44-50E	None	1		88	Patka Radrel A Radcom Sta SW	47-15-20N 018-27-10E		5	
44	Piliscsaba	47-42-45N 018-51-25E	None	1		89	Szokesfehervar	47-13-35N 018-32-43E	None	4	
45	Piliscsaba SAM Site	47-41-25N 018-52-20E	None	2	Collocated with SA-2 SAM site						

*Type of facility unknown

Table 1. (cont'd)

Item	Name	Geographic Coordinates	BE Number	Type	Remarks
90	Seregnyes	47 08 00N 016 50 00E	None	5	1 self supporting lattice tower
91	Gondos	47 11 10N 016 41 10E	None	4	
92	Pata	47 16 10N 016 56 00E	None	2	
93	Bencsik	47 18 00N 016 45 40E	None	2	
94	Racsmos Radar Sta	47 02 00N 016 50 40E		5	Self supporting lattice tower
95	Buzs	47 13 00N 016 11 00E	None	465	1 self supporting lattice tower, 2 guyed lattice masts
96	Tatarnafu	47 02 00N 016 23 00E	None	2	
97	Gyoged	47 10 00N 016 41 00E	None	3A	
98	Fris	47 17 25N 016 56 15E	None	2	
99	Nagyhuta	47 29 00N 016 46 00E	None	2	
100	Jashtorny	47 30 10N 016 56 50E	None	7	Large masonry tower
101	Manan	47 37 00N 016 56 50E	None	4	
102	Serock AM BC Sta	47 11 00N 020 13 00E		4	2 separately secured guyed lattice towers
103	Szegl	47 09 00N 020 16 00E	None	1	
104	Tuskeadmicska	47 10 00N 020 24 00E	None	7	
105	Kucskafu	47 10 00N 020 46 00E	None	5	Self supporting lattice tower
106	Kucskafu Radar Sta	47 10 00N 020 46 00E		4	1 set TWIN PLATE
107	Dobosm Radar Sta II	47 10 00N 021 38 00E		3	Large cylindrical masonry tower with multiple hemi parabolic antennas
108	Bentymufu N	47 10 00N 021 32 00E	None	7	Steel water tower with steel lattice mounted on top
109	Bentymufu S	47 10 00N 021 32 00E	None	7	Masonry tower
110	Kornali TV Rel Sta	47 10 00N 021 29 00E		38	
111	Tapalan/Talardagan	46 57 00N 017 30 00E	None	1	
112	Nagyhuta N	46 58 00N 017 30 00E	None	38	
113	Nagyhuta S	46 57 00N 017 30 00E	None	3	
114	Nagyhuta AM BC Radar Sta	46 57 00N 017 30 00E		4	Guard lattice tower in top secured area from AM BC sta
115	Chuga West	46 18 00N 017 00 00E	None	2	
116	Chuga	46 18 00N 017 00 00E	None	3	Free hemi parabolic antennas
117	Kabakul	46 14 00N 017 10 00E	None	5	Self supporting lattice tower
118	Bakom Szobud AM BC	46 20 00N 016 50 00E	465	2	Self supporting lattice towers
119	Dunahidvar	46 42 00N 016 54 00E	None	3	3 self supporting lattice towers: pos AM BC sta
120	Dunahidvar	46 40 00N 016 54 00E	None	1	
121	Solt Radom BC Sta	46 40 00N 016 54 00E		4	
122	Kecskemet	46 41 00N 016 43 00E	None	1	
123	Tamas	46 37 10N 016 17 30E	None	5	Self supporting lattice tower
124	Pala Radar Sta	46 35 00N 016 54 00E		38	
125	Pala	46 37 55N 016 55 50E	None	1	Free standing tubular tower
126	Kucskos	46 37 00N 016 57 00E	None	7	
127	Kungaj	46 30 40N 016 50 00E	None	1	
128	Mosca/Toma	46 20 00N 016 46 00E	None	3A	
129	Sokkard	46 21 00N 016 46 00E	None	7	
130	Bata	46 20 00N 016 46 00E	None	5	Blg with prob hemi parabolic antennas
131	Pecsi TV Rel Sta	46 08 00N 016 15 00E		38	
132	Pecsi AM BC Kmr	46 08 00N 016 15 00E		4	
133	Eggen AM Radar Fac	46 08 00N 016 15 00E		4	Adj to radar fac

* Type of facility unknown

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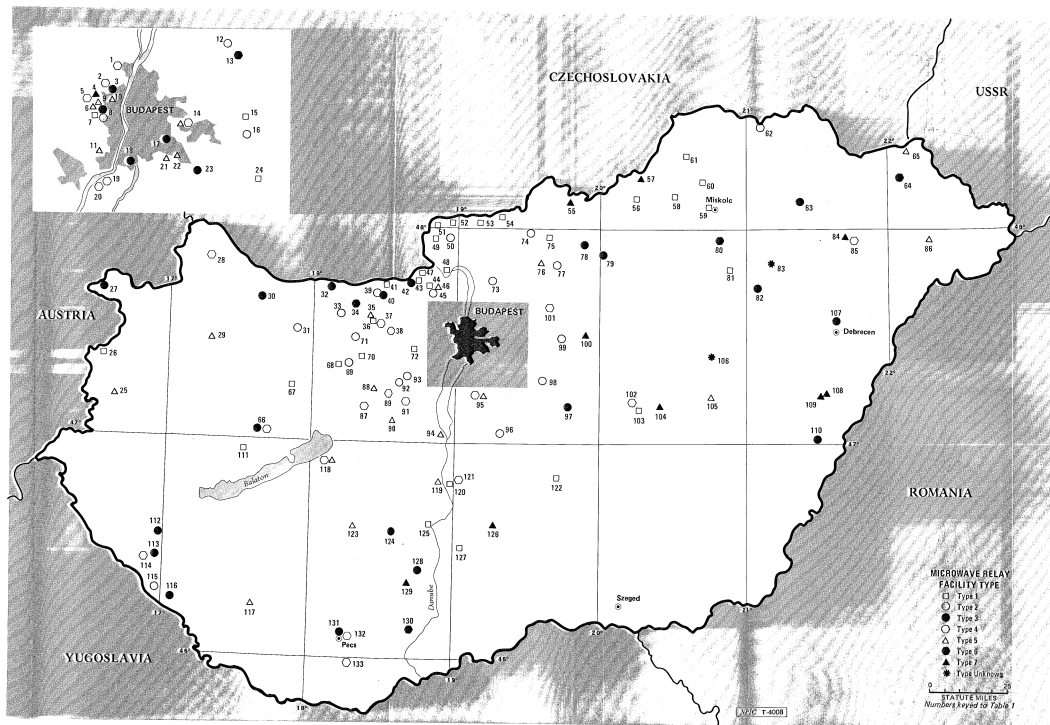


FIGURE 1. LOCATIONS OF FACILITIES IN THE HUNGARIAN RADIO-RELAY NETWORK

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